

AMENDMENTS TO THE CLAIMS

1-5. (Canceled)

6. (Previously presented) A photoelectric encoder having a telecentric optical system in which a first lens and an aperture located at a focal position of the first lens are interposed between a main scale and a photoreceptor,

wherein at least a second lens is interposed between the aperture and the photoreceptor with a focus of the second lens on the aperture, thereby constituting a bilateral telecentric optical system, and

wherein one or more second bilateral telecentric optical systems including a second aperture and third and fourth lenses arranged on both sides thereof is/are further interposed between the second lens and the photoreceptor.

7-19. (Canceled)

20. (Currently amended) ~~[[The]]~~ A photoelectric encoder ~~according to claim 19,~~
having a telecentric optical system in which two lenses and an aperture located at a focal position
of the two lenses are interposed between a main scale and a photoreceptor,

wherein the two lenses comprise identical lenses having a symmetrical front and back
shape with regard to a central plane perpendicular to an optical axis, and

wherein each of the two lenses is made of a ball lens.

21. (Currently amended) ~~[[The]]~~ A photoelectric encoder ~~according to claim 19,~~
having a telecentric optical system in which two lenses and an aperture located at a focal position
of the two lenses are interposed between a main scale and a photoreceptor,

wherein the two lenses comprise identical lenses having a symmetrical front and back shape with regard to a central plane perpendicular to an optical axis, and

wherein each of the two lenses is made of a GRIN lens.

22. (Currently amended) ~~[[The]]~~ A photoelectric encoder ~~according to claim 19,~~
having a telecentric optical system in which two lenses and an aperture located at a focal position
of the two lenses are interposed between a main scale and a photoreceptor,

wherein the two lenses comprise identical lenses having a symmetrical front and back
shape with regard to a central plane perpendicular to an optical axis, and

wherein each of the two lenses is made of a drum lens.

23-24. (Canceled)

25. (Currently amended) The photoelectric encoder according to claim 6, wherein at
least one of the first aperture and the second aperture is formed as a slit oblong in a direction
perpendicular to an axis of measurement.

26. (Canceled)

27. (Previously presented) The photoelectric encoder according to claim 20, wherein
the aperture is formed as a slit oblong in a direction perpendicular to an axis of measurement.

28. (Previously presented) The photoelectric encoder according to claim 21, wherein
the aperture is formed as a slit oblong in a direction perpendicular to an axis of measurement.

29. (Previously presented) The photoelectric encoder according to claim 22, wherein
the aperture is formed as a slit oblong in a direction perpendicular to an axis of measurement.